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ABSTRACT

This study presents an analysis of economics instruction for high school students in various nations in the world and a rationale for economics instruction in Russia to develop a market-oriented economy. The development of the present economic curriculum in the United States is traced and the "Framework for Teaching Economics" (1977), used as the model for most economic instruction is discussed. For the Russians to develop their economic curriculum, they must first develop a working definition of economics education for the high school. Suggested steps in developing an effective economics program include: (1) key groups, such as Russian economists, high school educators, business leaders, politicians, and others, making a strong case for economics in the curriculum; (2) key economic concepts and ideas being identified for instruction; (3) ways for handling controversies in economic content that affect curricular and teaching decisions; (4) students taking a separate course in economics at different grades; (5) students being tested by a Russian test of economic understanding; and (6) undertaking further research in Russia to improve economic education at the high school level. Brief descriptions of economic education practices are described for the United States, Australia, Germany, Austria, Japan and Korea. Research analysis focuses on the lasting effects of economic instruction, the infusion approach to economics instruction, the amount of teacher education and preparation for teaching economics, and the new developments in technology and pedagogy. (EH)

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ED 380 368

HIGH SCHOOL ECONOMICS IN AN INTERNATIONAL PERSPECTIVE: IMPLICATIONS FOR ECONOMIC EDUCATION IN RUSSIA

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High School Economics in an International Perspective: Implications for Economic Education in Russia

High school students are taught economics in most nations that have advanced market-oriented economies. The economics instruction that students receive varies across nations because of history, education organization, and other national factors. Nevertheless, the different national experiences suggest that several steps or actions can be taken to make economic education more effective at the high school level. What follows is a discussion of *six steps* that have direct implications for the successful development of economic education in Russian high schools.

I. RATIONALE

The rationale for economic education is a compelling one and explains why economics is taught in secondary schools around the world. This rationale was perhaps best stated almost a quarter century ago by George Stigler (1970), an American Nobel laureate in economics. His justification for the special position of economics instead of other subjects was that it contributed to one of two classes of knowledge:

1. As a means of communication among people, incorporating a basic vocabulary or logic that is so frequently encountered that the knowledge should be possessed by everyone.

2. As a type of knowledge frequently needed and yet not susceptible to economical purchase from experts. (p. 78)

Economic education has found a place in the secondary school curricula of most industrial nations of the world primarily because it contributes to the first type of knowledge. People like to think and to talk about the economic issues that affect them in the roles that they might assume over a lifetime – as consumers, workers, producers, or as citizens. Basic economic literacy helps people understand the economic concerns

that directly affect them in their economic and civic roles. Nations benefit from economic education because it improves the public's ability to understand critical economic issues that affect a nation.

Economic education also contributes to the second type of knowledge. For some economic decisions, such as personal investing in the stock market, it is possible to hire professional or technical help. In most cases, however, it is neither practical nor economical for an individual to hire a professional every time a decision needs to be made. Even when outside opinions are given, the final decision must made by the individual, not the advisor. Each person, therefore, must ultimately serve as his or her own economist in making many economic choices. Economic education is likely to improve the competence of each individual to be a good economist when making personal and social economic decisions about issues encountered over a lifetime.

Certainly a successful transition to a market-oriented economy in Russia will require that its citizens understand the microeconomic and macroeconomic dimensions of the change. People need to understand how a market economy works. They need education in basic economic concepts and decision-making skills that will enable them to comprehend economic reforms, find solutions to the problems that occur in a transition to a market economy, and build new economic institutions. The economic policies of a nation will only be as good as the economic education of its citizens: economic illiteracy offers fertile soil for bad economic policies.

If economic education is to be of value in Russia, as it is in other Western industrial nations, it must be taught in high schools. Economics instruction is critical at this level because the subject is rarely taught in lower grades, and when it is, the

content coverage is quite limited. Although economics courses are offered in universities, the majority of students end their formal education in high school, and those students who continue their education at a university are unlikely to take an economics course. The fact is that the best opportunity for the economic education of Russian youth occurs in secondary schools.

One of the first steps, therefore, to effective economic education is for key groups to make a strong case for it in the school curriculum. Russian economists, high school educators, business leaders, politicians, and other groups must make the case that economic education is an essential part of a high school education and contributes to the advancement of economic literacy throughout Russia. There must be widespread support for economic education from many groups if the subject is to find a central place in the schooling of young people in Russia.

II. CONTENT

Deciding what economics should be taught is a second step for strengthening economic education in the schools. Economists and educators in the United States have struggled over the past thirty-four years to outline the economics concepts and understandings that should be taught to high school students. The curriculum problem turns out to be a classic example of the need for economic decision-making because there are many economic concepts or principles that should be taught, but classroom time and the capacity of students to handle economics content is limited. Teachers or school administrators must decide what economics content is reasonable to teach given the curricular and student constraints.

The economics content debate in the United States began in 1961 with a national task force report on economics education (Bach, et al., 1961). This report described the "minimum understanding of economics essential for good citizenship and attainable by high school students" (p. 4). It served as the major content statement for economics education until the mid-1970s, when it was replaced by the Framework for Teaching Economics (Hansen, Bach, Calderwood, and Saunders, 1977). The Framework reduced the task force statement to a set of about 24 economics content categories. The Framework was revised in 1984 (Saunders, Bach, Calderwood, and Hansen, 1984) to incorporate changes in the discipline of economics and to reorganize the set of economics concepts.

The Framework covers basic concepts in the fundamental, microeconomic, macroeconomic, and international economic clusters as shown in Table 1. It continued the task force tradition of stressing the use of a problem-solving or decision-making approach to economics that encourages students to identify economic problems, develop alternative solutions, and then to make a decision based on evaluation of the alternatives. Given the history behind the Framework and the involvement of respected economists, it is not surprising that this statement influenced and continues to shape economics textbooks, curriculum materials, and tests in the United States.

The widespread acceptance of the Framework among economic educators in the United States means that it represents the current consensus, or at least mainstream American economists' thinking, about what economics should be taught at the elementary and secondary schools. The Framework has also served as the validity

TABLE 1: Framework Concepts

FUNDAMENTAL ECONOMIC CONCEPTS

1. Scarcity
2. Opportunity Cost and Trade-offs
3. Productivity
4. Economic Systems
5. Economic Institutions and Incentives
6. Exchange, Money, and Interdependence

MICROECONOMIC CONCEPTS

7. Markets and Prices
8. Supply and Demand
9. Competition and Market Structure
10. Income Distribution
11. Market Failures
12. The Role of Government

MACROECONOMIC CONCEPTS

13. Gross National Product
14. Aggregate Supply
15. Aggregate Demand
16. Unemployment
17. Inflation and Deflation
18. Monetary Policy
19. Fiscal Policy

INTERNATIONAL ECONOMIC CONCEPTS

20. Absolute and Comparative Advantage and Barriers to Trade
21. Balance of Payments and Exchange Rates
22. International Aspects of Growth and Stability

MEASUREMENT CONCEPTS AND METHODS

Tables
Charts and Graphs
Ratios and Percentages
Percentage Changes
Index Numbers
Real vs. Nominal Values
Averages and Distributions Around the Average

BROAD SOCIAL GOALS

1. Economic Freedom
2. Economic Efficiency
3. Economic Equity
4. Economic Security
5. Full Employment
6. Price Stability
7. Economic Growth
8. Other Goals

Source: Saunders, Bach, Calderwood, and Hansen, 1984, p. 11, pp. 52-57.

document for international test comparisons in economics and the document might serve as a global framework for economic education (see Walstad, 1994).

The implication for Russia is that a "working definition" of high school economics is essential for the advancement of economic education in the schools. The definition is needed because it outlines what economics should be taught and how it should be taught. A recommended exercise is for Russian economic educators to review the Framework and to evaluate what parts of the American statement are useful for developing a working definition of economics. The controversy and debate resulting from that evaluation may provide greater clarity about the specific purposes of economics education in Russia and the relevant economics content for students, just as been the case in the United States. The review may also identify major questions that merit more investigation in the Russian context.

A related problem to defining the scope of economics is identifying the development of an appropriate sequence for the presentation of economics concepts to students at different ages. Current American thinking about this problem is found in Economics: What and When (Gilliard, et al., 1988). This document expands the outline of the Framework by providing detailed content statements in language that is more likely to be understood by teachers or students. It also recommends the specific grade levels at which the economics concepts and ideas should be introduced and taught in the school curriculum. It would also be a worthwhile exercise for Russian economic educators to review Economics: What and When together with the Framework because those documents should expand thinking about a scope and sequence in economics for Russia. If a review is undertaken, it should be remembered that the propositions

offered in Economics: What and When are tentative, and so more research will be needed to support each recommendation.

III. CONTROVERSY AND CONSENSUS

Any content statement for the teaching of economics will be subject to criticism. In fact, the Framework has been criticized for its weak treatment of ideology, the neglect of certain microeconomic topics, the fractured presentation of macroeconomics, and other sins (Walstad, 1992). Past history suggests that the specification of economics content in a document such as the Framework will be an evolutionary process with changes made when there are significant changes in the mainstream thinking about economics. This evolutionary process, however, will be unsettling for high school economics teachers and curriculum specialists in economic education.

Debates about economic content and policy are not new, but can be found throughout the history of economic thought beginning with the time of Adam Smith's Wealth of Nations. The dissension in contemporary economic thought can also be found in the recent debates among economists over whether economic methods are "scientific," or whether they, and the analysis and conclusions based on those methods, are best characterized as ideology (Watts, 1994). The controversies cannot be ignored given the public perceptions of divisions among economists, and the historical and contemporaneous evidence that only reinforces those perceptions. The conflicts among economists (and noneconomists) will call into question the basic content and approach to economic education in the Framework or similar content outlines for high school economics. These controversies create serious doubts about whether economics can be meaningfully taught below the college level.

What should not be forgotten is the degree of consensus among economists on many economic issues. Survey studies of North American and European economists show substantial evidence of a general consensus of economists in their views on many economic issues. The consensus varied somewhat by the country-origin of the economists, but there were more similarities than differences (Becker, Walstad, and Watts, 1994). Also, reviews of the economic contents of college textbooks in the United States suggest that there is general agreement on the content and approach for teaching basic economics (Walstad and Watts, 1990). The survey and textbook evidence runs counter to public and press perceptions of substantial disagreement among economists on economic issues.

A third step, therefore, for creating an environment for effective economic education is to find ways for handling controversies in economic content that affect curricular and teaching decisions. Perhaps the best guideline to achieve this objective is the following:

> In areas where most economists agree, it only seems reasonable that the burden of proof in any argument that proposes teaching concepts and ideas outside that consensus lies with those who would do so. Conversely, in areas where dissension rules, or is at least writ large within the profession, those who want to ignore these debates must offer strong arguments to justify any one-sided presentation on such topics; and they should recognize that normally to do so in programs for precollege students will lead to serious charges of intellectual or even ideological bias. (Watts, 1994, pp. 61-62)

These guidelines should help Russian economic educators identify and resolve problems arising from content debates in the economics profession that affect the teaching of economics or the preparation of curriculum guides for high schools.

IV. TYPES OF INSTRUCTION

Economics is a term that describes different types of courses and a range of content in secondary schools. From a strict perspective, an economics course would focus on basic principles of microeconomics and macroeconomics as defined by academic economists. From a broader perspective, topics in business education, consumer education, vocational education, or entrepreneurship would constitute the "economics" that should be taught to students. A curricular decision that each nation must make is whether to treat economics as a separate academic subject, as a broader set of topics to be taught in various subjects, or some combination of the two choices. There is no uniform model to follow, however, because each nation takes a slightly different approach. What follows are brief descriptions of practices in the United States, United Kingdom, Australia, Germany, Austria, Japan and Korea.[1]

United States. The academic view of economics has dominated the teaching of economics in the U.S. because of the influence of economists, first through the National Task Force report and later through the Framework. A separate semester economics course is taken by about 44 percent of American high school students. This course is usually offered in the twelfth grade as an elective, although more states and school districts have made economics a required course for students and some offer economics courses at other grades. The alternative to a separate course is the inclusion of economics lessons in other subjects. The infusion strategy has been widely used by U.S. schools because of state legislation. Not all students, however, receive the same type or a high quality of economics instruction through infusion because the legislation differs by state and instruction varies by teacher.

United Kingdom. The U.K. adopts a more academic approach to the content of economics at the upper secondary level (students aged 16-19 years old) than that found in American schools. There is no Framework-type document used in the U.K. that is designed to limit the economic concept load to a minimum to make a course more manageable for teachers to teach or for students to learn. Instead, teachers typically follow a common core syllabus that covers what would be taught in a college principles of economics course in the U.S.

The reason that economics is taught more intensively and for longer periods (up to two years) in the U.K. is in preparation for subject examinations that affect entrance to the university. The Advanced Level examinations are graded by external examiners, not by teachers. By contrast, separate economics courses in the U.S. typically last just a semester, do not follow a common syllabus, and are not tied to external exit examinations that affect university entrance. U.K. teachers are also specialists who have the equivalent of a master-degree in economics, whereas U.S. social studies teachers mostly study history or other social sciences because they are more likely to teach those subjects. Few U.S. teachers hold the equivalent of a master's degree in economics.

Only the high ability U.K. students qualify for A-level studies. These students study three of nine possible subjects (biology, business studies, chemistry, economics, English, geography, history, math, and physics). Economics, together with business studies, a course that also includes some economic content and is viewed as a complement to rather than a substitute course for economics, are the most popular

options among 16-18 year olds still in school. Together these subjects are studied by about 25 percent of the A-level school population.

Australia. The structure of economic education in secondary schools in Australia would be closest to that found in the U.K. Those students who decide to take economics spend two years of concentrated instruction on the subject, often in preparation for university examinations. The content coverage is extensive and would be similar to that found in an A-level economics course in the U.K or in a college principles of economics course in the U.S. About 27 percent of Australian students study economics in the last two years of high school. For these students, the study of economics would account for one-fifth or one-sixth of all coursework. The percentage of students who complete the final two years of high school in Australia, however, is a group of more mixed ability than that found with students in A-level economics in the U.K. because more students continue their education after age sixteen in Australia than in the U.K.

Germany. In the German system students are separated at an early age into different schools based on projected ability and career path in contrast to the comprehensive high school system in the U.S. that educates all students, both the college and non-college bound. The five types of German upper secondary schools are: (1) general secondary schools that prepare students for university entrance; (2) senior vocational schools that provide career training and a business degree for entry into higher-level jobs, and also preparation for university entrance; (3) intermediate vocational schools that prepare students for middle-level jobs, but not for entrance to the university; (4) secondary schools that provide general education for those who are

not interested in the university or a career; and (5) dual vocational schools that offer part-time vocational or technical training in school and part-time apprenticeships in businesses as preparation for entry into middle to lower-level jobs.

Austria. The educational system in Austria has the same hierarchical structure based on ability and career path as found in Germany. In Austria, however, there are only four types of schools because there is no school that provides education for students not seeking a career or entrance to the university. Also, the senior vocational schools have higher qualifications for the business degree or for preparation for the university than in Germany.

German and Austrian high school students do not take a separate course in economics as students can in the U.S. Rather, economics is infused in the curriculum of each type of school to varying degrees, but the extent of instruction depends on the school, which in turn depends on the ability of the student and career-orientation. The most economics is included in the senior vocational schools that prepare students for entry into higher-level jobs or the university. In these schools, economic concepts would be taught in combination with other subjects such as accounting, business, and management. For the small percentage that are university-bound, economics would be taught primarily in combination with history, social studies, or geography courses. Although these university-bound students would be comparable in ability to the students in A-level economics courses in the U.K., they receive much less direct economics instruction.

Japan. The Japanese school system was established from 1947 to 1950 using the U.S. as a model, which means that economics is included as part of the social

studies curriculum. The social studies curriculum is set at the national level by the Ministry of Education and does not vary by prefecture (i.e., state) as in the U.S. Consequently, all Japanese students are taught the same economic content. Economics is included in three different courses in the social studies curriculum in Japanese secondary schools. Economic concepts represent about a third of the required ninth-grade civics course, which covers such topics as prices, savings, taxes, consumer education, occupations, unions, employment, and the role of government and business in the economy. Economics also accounts for about 20 to 33 percent of the required tenth grade course on contemporary society. This course would discuss comparative economic systems, the national economy, business cycles, and international economics (trade, the balance of payments, and exchange rates). The third course, politics and economics, is an elective course that is taken in the twelfth grade by perhaps one-third or one-half of students. It covers material similar to that found in the contemporary society course but in more depth.

Korea. The Republic of Korea requires a course in "politics and economy" before high school graduation. Half of this course is devoted to economics. Students enrolled in regular high schools take the politics and economy course for four semesters, and thus receive about one year of economics instruction, while students attending vocational high schools take the course for two semesters, and receive a semester of economics instruction. The course content is contained in a required national textbook and it covers material comparable to that in a college principles textbook in the U.S.

Some potential problems with economic education in Korea may limit the effectiveness of student learning. Few economics items (1.5 percent) are on the

university entrance exams. Students may not take economics seriously as a subject because their efforts are directed to learning material more central to the university exam. Economics is also taught superficially because there is too much content to be covered in a course. Compounding these problems are the inadequate preparation of teachers and the use of a single textbook that presents too many economics concepts in a dry and uninteresting manner.

Russia. Despite the national differences, economics instruction will be most effective when it has an important place in students' education. *A fourth significant step that Russia can take to improve economic education is to make sure that students take a separate course in the subject at different grades.* Certainly there should be a separate course at the high school level. This course should last for a year and show how economics concepts and ideas apply to the "real world." There should also be courses or units of instruction in economics at lower grades so that students have an opportunity to learn about basic economic concepts at a young age – just as is done with science or mathematics. Economics may also be integrated into the subject matter of other courses, such as business or vocational education courses, but the sole reliance should not be placed on these courses. Students will only receive the necessary time to learn basic economic ideas when it is taught in a separate course.

V. MEASURING ECONOMIC UNDERSTANDING

Measurement is critical for research in economic education. In fact, serious empirical study of economic education in the United States can be traced to the creation of tests to measure economic understanding. A current example is the Test of Economic Literacy (TEL), a nationally normed and standardized achievement test

designed for use with eleventh and twelfth grade high school students in the U.S. (Soper and Walstad, 1987). This multiple choice test is based on the Framework concepts and has been widely used in research studies. Other multiple-choice tests are also available for measuring student achievement in economics at other levels of the education system in the United States (Saunders, 1991; Walstad and Soper, 1987; Walstad and Robson, 1990).[2]

Comparisons. The TEL has become the standard for international comparisons of economic understanding among high school students. The results from administering the TEL in the United States, United Kingdom, Australia, Germany, Austria, and Korea are reported in Table 2. No assertion is made that these data represent a scientific international comparison of economic understanding because there are differences in the ability level of students, the sampling procedures vary, and the data were collected in different years. There may be unknown language or cultural problems, especially with the translation of the TEL questions into German or Korean. Nevertheless, the results seem to conform to a priori expectations of relative achievement given the nature of economic education in the schools of each nation and the ability level of student samples.

Students in the U.K. showed the highest level of performance with an average score of 36 points on the 46-item TEL. This result was expected given that U.K. students had two years of economics instruction and were higher ability students. Australian students in the twelfth grade followed next with an average score of 31 points. These students had two years of high school economics, but the ability level of this group was more mixed than were the A-level students in the U.K.

TABLE 2: Results on the *Test of Economic Literacy* (form A) By Nation

	Mean	S.D.	N
United States			
Overall	22.06	8.33	4,235
With Economics	23.33	8.45	3,153
Grade 11 (1 semester)	21.26	7.99	633
Grade 12 (1 semester)	24.04	8.47	2,168
Without Economics	18.37	6.71	1,082
Grade 11	17.20	5.91	408
Grade 12	19.78	7.14	463
United Kingdom			
Overall	30.09	7.78	7,549
With Economics (A-level)			
Grade 11 (1 year)	31.84	5.52	2,169
Grade 12 (2 years)	36.87	4.74	1,814
Without Economics (A-level)			
Grade 11	23.53	6.40	1,713
Grade 12	25.62	6.12	1,084
Australia			
With Economics			
Grade 12 (2 years)	31.11	6.40	571
Grade 11 (1 year)	26.90	7.16	368
Germany			
Overall	22.06	7.28	4,612
By School Type			
General Secondary Schools	24.34	6.14	671
Senior Vocational/Technical	25.14	5.55	716
Intermediate Vocational/Technical	15.02	4.92	711
Dual Vocational/Industry	23.80	6.49	632
Dual Vocational/Retail, homemaking	15.90	5.53	757
Austria			
Overall	22.48	7.23	1,664
By School Type			
General Secondary Schools	22.34	6.01	513
Senior Vocational/Technical	25.33	5.97	655
Intermediate Vocational/Technical	19.68	6.23	164
Dual Vocational/Industry	15.58	4.32	55
Dual Vocational/Retail/homemaking	14.30	4.91	169
Republic of Korea			
Overall	23.77	7.25	4,334
With Economics	24.42	7.58	3,025
Without Economics	22.25	6.18	1,309

Source: Walstad (1994, p. 12)

Significantly lower levels of performance on the TEL were found among U.S., German, and Austrian secondary students. The probable reason was less economics instruction. American students took only about a semester of economics, and the specific content varied depending on school or state mandates, the teacher, and other factors. German and Austrian students learned about economics in the context of courses such as history, geography, or business and management, but they did not take a separate course in economics. Their performance also depended on the type of school and the ability of the students. Students in the university-bound schools or senior vocational schools performed somewhat better than students in other schools.

Korean students with economics scored somewhat better than U.S. students with economics, but the average Korean students also had a year of instruction compared with less than a year for high school students in the U.S. As explained earlier, this lower than expected level of performance in Korea may have occurred because of a lack of motivation to study economics given that few economics questions are included in the university entrance exam. This motivational factor combined with teaching and textbook problems may have limited student learning and may explain the achievement level of Korean students in economics.

A Russian Measure. A *fifth step for the advancement of economic education at the high school level in Russia is the development of a Russian test of economic understanding*. The preliminary work might be a translation of the TEL into Russian and its administration to a national sample of Russian high school students. This work would give some indication of the relative performance of Russian students and identify problems areas for further test development. This preliminary work is less costly for

researchers because they do not have to spend valuable research time creating a standardized test. It would also provide a valid and reliable measure for research work.

Ultimately, there will be a need for a unique Russian test of economic understanding to replace the version from the United States. This step will be more expensive and time demanding because the cultural and educational differences in Russia make test development more complicated than it has been in the United States. What will be even more critical from a test perspective is reaching a consensus on what "economics" should be included in a Russian test of economics understanding.

VI. RESEARCH TOPICS

Several research issues related to economic education have been investigated in the United States and other countries. *Research should also be undertaken on similar topics in Russia as a sixth step to improving economic education at the high school level.* This research will contribute further insights into what makes economic education effective and create a body of knowledge for teachers and administrators to draw from in designing instruction.

Lasting Effects. Does a course in high school economics have a lasting effect on economics learning in universities for those students who attend a university or those students who do not attend university and who choose other career paths? The lasting value question is worthy of study because it may provide a justification for teaching economics in Russian high schools and offer understanding of the long-term effects of economics instruction. Early research on this topic was conducted for the high school course in the United States (Saunders, 1970), and for "A" level economics in the United Kingdom (Attiyeh and Lumsden, 1972). Both studies analyzed the

economics achievement of university students who had completed a university course in economics and found that those students who had taken an economics course in secondary school in either country had a higher level of economics understanding in some areas. Positive findings on the effects of high school economics instruction on the final grades received in introductory and intermediate university economics courses were reported in Canadian and American studies (Myatt and Waddell, 1990; Brasfield, Harrison, and McCoy, 1993). Despite these results, there is general skepticism among university economists about the contribution of school economics to university economics education and little is known about the effects of school economics on the majority of students who do attend a university. The lasting value question seems ripe for further study both in Russia and the United States.

Infusion. Another research question concerns the infusion or integration of economics content into other courses rather than a separate course in economics. In the United States, infusion generally occurs in social studies courses or units on history, government, or consumer economics. The infusion strategy is appealing to teachers and administrators because it allows them the flexibility of organizing economics instruction to fit the constraints of a crowded school curriculum.

Most research studies in the United States find little or no gain in economics understanding for high school students who receive economics instruction in other social studies courses (Walstad and Soper, 1988). This negative finding can perhaps best be explained by noting the potential barriers that are likely to reduce the effectiveness of infusion. These barriers include inadequate teacher education in economics for infusion teachers, superficial instruction on basic economics concepts by

infusion teachers, poor presentation of economics ideas in textbooks and curriculum materials that are designed to cover another, and the limited amount of time available for infusing economics in the school curriculum (Walstad and Watts, 1985). If the Russian educational systems rely solely on infusion as an important means of teaching economics to students, then infusion of economics understanding will need to be evaluated for its contribution to economics learning.

Teacher Education. The number of economics courses taken by teachers who are most likely to teach economics to students varies substantially in the United States and other nations: some teachers never take an economics course; others have the equivalent of a university major in economics. This variability in teacher preparation in economics results from the placement of economics in the school curriculum, teacher certification requirements, and the structure of teacher education programs at universities. The variability in teacher preparation is likely to affect the quality of economic education in Russian high schools.

In the United States, economics is typically taught in the social studies curriculum of schools, where it is usually considered to be a minor subject compared with history or government. Teacher education programs, therefore, are dominated by course requirements in history or government because those are the subjects that most social studies teachers are likely to teach. To correct this deficiency in "preservice" education of teachers, "inservice" courses in economics are offered at colleges and universities for teachers who are already licensed and currently teaching. This inservice activity includes university-credit courses in economics or non-credit workshops on particular topics. Research studies show that the number of economics courses taken by a

teacher has a strong positive effect on the economics understanding of students (Walstad, 1992). The effects of teacher education on economic education should also be studied in Russia.

Technology and Pedagogy. Economic education in Russia and other nations can be changed by developments in technology, pedagogy, or curriculum materials. The argument that is often made for these new innovations is that they will improve student learning of economics or have some other positive influence on students. This argument can be turned into a testable hypothesis, which becomes a topic for research in economic education. Each new innovation for the classroom should be subjected to research to assess the effects on students' economics learning. Whenever possible, these types of studies should take into account the cost of implementing the new innovation so that its cost-effectiveness can be examined.

New development in microcomputer and multimedia instruction, for example, suggest that this new technology heralds a new era for economics instruction. That optimism may be justified because economics seems to be a subject that is well-suited to take advantage of the microcomputer given the quantitative orientation of the subject, the graphical power of microcomputer, and advances in multimedia presentations. Before accepting that conclusion there needs to be more research on whether this new technology achieves the stated objectives of improving economics understanding or other objectives. Economics software and the multimedia programs may be effective substitutes for classroom instruction by the teacher, but only research will tell under what circumstances and to what degree that proposition is valid.

VII. CONCLUSION

Steps can be taken to improve economic education in Russia so that high school students develop the capability of understanding today's economics events and those they will experience in the next century. A strong case for economic education must be made by many groups. There needs to be agreement about what economics should be taught. Economics should be taught in the school curricula in regular courses. Teachers will need more education in economics and better preparation in how to teach the subject in a meaningful way in the classroom. New instructional materials should be developed that increase student understanding of basic economic concepts and at the same time give insights into the economic world. A body of research needs to be developed on important curriculum and instruction issues. What must be recognized in Russia, and in all advanced nations, is that economic education is a required part of the education of high school students and sets the foundation for the economic literacy of the public.

ENDNOTES

1. Further description of economic education in these countries is found in various chapters in Walstad (1994).

2. Multiple choice tests are not the only measures that can be used to assess student economic understanding, but they are used most often because of their reliability and economy. See Becker, et al. (1991) for a discussion of this issue.

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